**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania

**Project Code: SCEAM** Site ID: **S25** Observation ID: 1

Agency Name: **TAS Department of Primary Industries and Fisheries** 

Site Information

Desc. By: R. Moreton Locality: Andrew Jones, "Daisy Bank", near

Richmond.

01/03/06 Date Desc.: Elevation: 28 metres GPS S.A. Off Map Ref.: Rainfall: 514 Northing/Long.: 5269665 AMG zone: 55 Runoff: No runoff

Easting/Lat.: 535205 Datum: GDA94 Drainage: Imperfectly drained

Geology

ExposureType: Soil pit Conf. Sub. is Parent. Mat.: Probable **Substrate Material:** Geol. Ref.: Ts Soil pit, Alluvium

Landform

Rel/Slope Class: Gently undulating plains <9m 1-3% Pattern Type: Alluvial fan

Morph. Type: Lower-slope Relief: No Data

Very gently sloped Elem. Type: **Slope Category:** Valley flat Slope: 1 % Aspect: 50 degrees

Surface Soil Condition Loose

**Erosion** 

**Soil Classification** 

Australian Soil Classification: Mapping Unit: N/A Sodic Eutrophic Brown Kandosol Medium Non-gravelly Clay-loamy Principal Profile Form: N/A Clayey Deep

**ASC Confidence: Great Soil Group:** N/A

All necessary analytical data are available.

Site Disturbance

**Vegetation** 

Surface Coarse Fragments No surface coarse fragments

**Profile Morphology** 

Very dark brown (10YR2/2-Moist); Grey (10YR5/1-Dry); , 0-0%; Fine sandy clay loam; 0 - 0.18 m

Moderate grade

of structure, 5-10 mm, Polyhedral; Moderate grade of structure, <2 mm, Polyhedral; Earthy fabric; Few

(<1 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very weak consistence; Non-

plastic; Slightly

sticky; Common, very fine (0-1mm) roots; Clear, Smooth change to -

AΒ 0.18 - 0.29 m 0-5mm.

Very dark grey (10YR3/1-Moist); Greyish brown (10YR5/2-Dry); Mottles, 10YR44, 2-10%,

Distinct; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of

structure, 10-20 mm, Angular blocky; Earthy fabric; Common (1-5 per 100mm2) Medium

(2-5mm)

macropores, Moderately moist; Firm consistence; Slightly plastic; Slightly sticky; Few,

very fine (0-1mm)

roots; Abrupt, Smooth change to -

0.29 - 0.56 m B1t

10YR32, 2-10%,

Dark yellowish brown (10YR4/4-Moist); Light brownish grey (10YR6/2-Dry); Mottles,

5-15mm, Faint; Light clay; Massive grade of structure; Earthy fabric; Moist; Strong

consistence;

Moderately plastic; Normal plasticity; Moderately sticky; Few, very fine (0-1mm) roots;

Diffuse, Smooth

change to -

B2t 0.56 - 1 m Dark yellowish brown (10YR4/4-Moist); Mottles, 10YR56, 2-10%, 0-5mm, Faint; Light

medium clay;

Massive grade of structure; Earthy fabric; Moist; Very firm consistence;

**Morphological Notes** 

Fine Light Clay

B1t Charcoal present. Fine sand particles present, <2mm. Soil sampled S25C from depth 29-

56cm

R2t Fine sand particles present, <2mm.Soil sample S25D from depth 56-86cm, sample S25E

from

#### depth 86-100cm

# **Observation Notes**

Vegetation: Bare disced after barely crop, some barley regeneration.

# Site Notes

Mode of Geomorphic Activity: aggraded. Agent: Sheet wash. No inundation

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## **Laboratory Test Results:**

| Depth       | pН           | 1:5 EC | Ex<br>Ca | changeabl<br>Mg | le Cations<br>K | Na   | Exchangeable Acidity    | CEC | ECEC   | ESP |
|-------------|--------------|--------|----------|-----------------|-----------------|------|-------------------------|-----|--------|-----|
| m           |              | dS/m   |          | 9               |                 |      | (+)/kg                  |     |        | %   |
| 0 - 0.075   | 4.7C<br>5.8A | 0.071A | 5.71A    | 4.75            | 0.29            | 0.65 | 0.06D<br>0.01G<br>0.12A |     | 11.52B |     |
| 0.2 - 0.275 | 4.8C<br>6A   | 0.084A | 5.65A    | 6.08            | 0.24            | 1.14 | 0.06D<br>0.02G<br>0.12A |     | 13.23B |     |
| 0.29 - 0.56 | 4.8C<br>6.2A | 0.154A | 3.12A    | 12.73           | 0.19            | 2.65 | 0.08D<br>0.13G<br>0.24A |     | 18.93B |     |
| 0.56 - 0.86 | 5C<br>6.1A   | 0.248A | 2.49A    | 11.45           | 0.19            | 3.38 | 0.09D<br>0.04G<br>0.16A |     | 17.67B |     |
| 0.86 - 1    | 6.1C<br>7.3A | 0.353A | 2.91A    | 14.6            | 0.29            | 5.62 | 0.03D<br>0G<br>0.03A    |     | 23.45B |     |

| Depth       | CaCO3 | Organic<br>C<br>Clay | Avail.<br>P  | Total<br>P | Total<br>N | Total<br>K | Bulk<br>Density | GV | Particle<br>CS | Size<br>FS | Analysis<br>Silt |
|-------------|-------|----------------------|--------------|------------|------------|------------|-----------------|----|----------------|------------|------------------|
| m           | %     | %                    | mg/kg        | %          | %          | %          | Mg/m3           |    |                | %          |                  |
| 0 - 0.075   |       | 2.08B                | 40H<br>18.2I |            | 0.15D      |            |                 |    |                |            |                  |
| 0.2 - 0.275 |       | 1.57B                | 14H<br>7I    |            | 0.09D      |            |                 |    |                |            |                  |
| 0.29 - 0.56 |       | 0.61B                | 2H<br>0.7I   |            | 0.06D      |            |                 |    |                |            |                  |
| 0.56 - 0.86 |       | 0.38B                | 2H<br>0.7I   |            | 0.04D      |            |                 |    |                |            |                  |
| 0.86 - 1    |       | 0.19B                | 2H<br>0.6l   |            | 0.03D      |            |                 |    |                |            |                  |

## **Laboratory Analyses Completed for this profile**

|                        | <u> </u>  |
|------------------------|---|
| 10B_NR                 | Extractable sulfur (mg/kg) - Not recorded   |
| 12_NR_FE               | Total element - Fe(%) - Not recorded  |
| 12A1_CU                | DTPA - extractable copper, zinc, manganese and iron                                     |
| 12A1_FE                | DTPA - extractable copper, zinc, manganese and iron                                     |
| 12A1_MN                | DTPA - extractable copper, zinc, manganese and iron                                     |
| 12A1_ZN                | DTPA - extractable copper, zinc, manganese and iron                                     |
| 12C1                   | Calcium chloride extractable boron - manual colour                                      |
| 15_NR_AL               | Aluminium Cation - meq per 100g of soil - Not recorded                                  |
| 15_NR_H                | Hydrogen Cation - meq per 100g of soil - Not recorded                                   |
| 15A1_CA                | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment |
| for soluble            |   |
|                        | salts   |
| 15A1_K                 | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment |
| for soluble            |   |
|                        | salts   |
| 15A1_MG<br>for soluble | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment |
|                        | salts   |
|                        |   |

| 15A1_NA<br>for soluble | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment             |
|------------------------|---|
| 15G_C_AL2<br>By AAS    | salts Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and detremination |
| 15G1                   | Exchange acidity (hydrogen and aluminium) by 1M potassium chloride                                  |

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15J\_H Sum of Ex. cations + Ex. acidity - Sum of basic exch. cations and exch. (Hydrogen)
15N1 Exchangeable sodium percentage (ESP)

15N1 Exchangeable sodium percentage (ESF 18A1 Bicarbonate-extractable potassium 3A1 EC of 1:5 soil/water extract 4A1 pH of 1:5 soil/water suspension

4B2 pH of 1:5 soil/0.01M calcium chloride extract - following Method 4A1
6B2 Total organic carbon - high frequency induction furnace, volumetric
7A5 Total nitrogen - high frequency induction furnace, thermal conductivity

7C1a Ammonium-N, in presence or absence of nitrite

7C1b (Nitrate+nitrite)-N, in presence of nitrite

9B2\_COL Bicarbonate-extractable phosphorus - automated colour. Based on Colwell (1965). Method no

longer

recommended

9C2 Olsen-extractable phosphorus - automated colour